

  
**WEST**

Generate Collection

L3: Entry 230 of 233

File: JPAB

Jun 24, 1982

PUB-NO: JP357101727A

DOCUMENT-IDENTIFIER: JP 57101727 A

TITLE: CALIBRATING METHOD FOR SURFACE TEMPERATURE OF STEEL PLATE

PUBN-DATE: June 24, 1982

## INVENTOR-INFORMATION:

NAME

COUNTRY

INOUCHI, TORU

TANAKA, TOMIO

## ASSIGNEE-INFORMATION:

NAME

COUNTRY

NIPPON STEEL CORP

APPL-NO: JP55178558

APPL-DATE: December 17, 1980

US-CL-CURRENT: 374/1

INT-CL (IPC): G01J 5/52

## ABSTRACT:

PURPOSE: To make it possible to accurately calibrate a value of temperature obtained by a thermocouple, by seeking a radiation energy from a steel plate at the time when a difference, which is obtained by subtracting an amount of direct incidence from a sum of an amount of direct incident to a radiometer and an amount of incidence after reflection on a mirror surface, takes the maximum value, and then, by obtaining a real steel plate surface temperature by using a prescribed equation.

CONSTITUTION: A radiometer 12 and a reflector 14 are arranged on a heated steel plate 10, which is an object of temperature measurement, in such a manner that energy radiated from the steel plate enters the radiometer directly and also indirectly after reflecting upon the reflector and surface of the object. By measuring  $E_1$ , which is the radiation energy, and  $E_2$ , which is a sum of the  $E_1$  and a radiation energy entering after the reflections, and also by changing the rate of radiation from the steel plate surface while keeping the steel plate temperature constant, the radiating energy  $E_1$  at the time when a difference  $\Delta E = E_2 - E_1$  is the maximum is sought, and by using a relative equation  $E_b T = 2/r \cdot E_1^*$  ( $r$  in the equation signifies permeability of filters 18 and 20) between the value  $E_1^*$  and a blackbody radiating energy, a surface temperature  $T$  of the steel plate is sought. And, a thermocouple 24 is installed in the neighborhood of the steel plate temperature measuring section to obtain an indicative temperature  $T$ , and a temperature  $T_a$  is calibrated by the temperature  $T$ .

COPYRIGHT: (C)1982, JPO&amp;Japio